

REMARKS

Claims 1-25, 33-46 and 53-54 are pending and stand rejected. Claims 1, 4, 17, 33, 36, 41, 53 and 54 are currently amended and Claims 55 and 56 added.

Rejections

Claims 1-25, 33-46 and 53-54 stand rejected under 35 USC §112 as being indefinite for failing to particularly point out and distinctly claim the subject matter.

Claims 53-54 stand rejected under 35 USC §102(b) as anticipated by Kelley (US 5168152).

Response to §112 Rejections

With regard to the §112 rejection, the Examiner said in Claims 1 and 33 that it was unclear as to what type of data represents the “first, second and third data set”. Also he questioned what type of sensor represents the “first and second sensors”. Also in step (c), he said it is unclear as to what is the purpose of modifying the second data set and why it needs to be modified and not the first data set.

As regards Claims 4 and 36, he said that the “predetermined factor K” was unclear.

In Claims 17 and 41 he said the phrase “above and including a horizon” and “below and including the horizon” was unclear. He also said it was unclear as to what type of data represents the “first, second and third data set” and what type of sensor represents the “first and second sensors”. Also in step (c) he said it is unclear what is the purpose of modifying the second data set.

As regards Claims 53 and 54, he said it was unclear as to what type of data is measured in the “first and second measurement” and what does it mean “processing at least on said first and second measurement with respect to each other”.

In response, first as regards what type of data is being recited in Claims 1 and 33, these claims have been identically amended in the preamble to recite for instance “a respective first sensor which senses radiation in a first frequency band of electromagnetic radiation”. Thus it is clear what type of sensor this is and what type of data is being sensed. Clearly the “first data set from said first sensor” is the result of the radiation sensed by the sensor. Hence this rejection is overcome as to the type of data, what is in the data sets and the type of sensor.

As regards step (c) of Claims 1 and 33, the Examiner asked what the purpose is. This comment (if indeed it was intended as a rejection) is traversed. It is pointed out that such a rejection is not relevant. The purpose of the claims is as a matter of both practice and law not set forth in the claims. It would be inappropriate to recite a purpose in a claim. Also of course the fact that whether the first or second data set is modified is not relevant since in the context of the claim there is no particular distinction made there between. Hence this aspect of this rejection is also traversed.

As regard the “predetermined factor K” in Claims 4 and 36, these claims have been amended to delete the letter K. Otherwise the claim is quite clear in reciting “a predetermined factor”. As pointed out in the specification, this is some predetermined numerical value. The claim appears to be in good order and hence this rejection is traversed and the removal of the letter K is merely to improve the form of the claim and not responsive to any rejection.

As regards recitation of the “horizon” in Claims 17 and 41, this rejection is also traversed. It is absolutely clear what is meant by “a horizon”. However merely to improve the form of the claim and not overcome this rejection, these claims have been amended to recite a “horizon between the ground and sky”. This conforms both to the normal meaning of the term “horizon” and also is to the specification at page 11, line 7.

The other amendments to Claims 17 and 41 conform them to Claim 1, for instance.

As regards Claims 53 and 54, these have been amended to make it clear what the nature of the first measurement and second measurement are. These amendments read on the specification page 10, line 22, through page 11, line 14. Also as regards the processing aspect, this has been

amended so step (c) now recites “processing said first and second measurements together”. This reads on the specification at the top of page 14 and Figure 6. It is believed that this clarifies the claim. However this rejection is also traversed and the amendment here is merely to improve the form of the claim.

Last, each independent claim has been amended to recite “a second different frequency band” or similar. See Claim 1 for instance. Similar amendments were made in Claim 53 so this now recites “a second different spectral band”. This amendment again is merely to improve clarity. It is clear from the claims as previously pending that there is some distinction between the two frequency bands or spectral bands. This amendment merely emphasizes that difference. Moreover, the term “different” is not to be construed that there is absolutely no overlap between these bands so that they are totally different in all regards. Instead this means merely that they are not the same bands, that is do not have the same minimum and maximum wavelength. It is believed that this was implicit and clear in the claims as they were earlier pending and hence this amendment is intended only to improve clarity.

Note that any amendments made here and which are not specifically responsive to a rejection and not relied upon for patentability are intended to improve the form of the claims and for clarity and not intended to limit the claims.

Further it is respectfully pointed out that the Examiner appears to be engaging in a piecemeal examination as regards §112 at least. These rejections could and should have been made in the first office action. It is respectfully requested the Examiner consider this and not make any new rejections of this type as being contrary to the MPEP.

§102 Rejections

The Examiner made a new §102 rejection citing Kelley.

This rejection is respectfully traversed. It is respectfully submitted that this reference does not disclose or suggest the present invention. The Examiner cited Kelley column 2, lines 13-57, and column 3, lines 20-60. However in both of these passages, Kelley only takes measurements

in a single spectral band. He does not take measurements in two (different) spectral or frequency bands.

At Kelley column 2, lines 13-44, there is description of an embodiment which uses a single spectral band which is ultraviolet light. There is description of two ultraviolet light sensors, see column 2, lines 26-30. This particular embodiment is also referred to at column 2, lines 44-46.

Then Kelley discloses a second and different embodiment at column 2, beginning line 47 "...however that the principles of this invention could be practiced by other kinds of vehicles, such as submersibles, where instead of radiation, sensors detect ultra high frequency sound..." so the second embodiment, uses sound, again a single type of energy, although of course not radiation and not electromagnetic.

The embodiment of Kelley column 3, lines 20-60, is clearly the ultraviolet embodiment, see column 3, line 43. Again there is no suggestion that the two sensors are different in any way in this embodiment. The remainder of the disclosure is of the ultraviolet embodiment. The only description of any other type of sensor appears to be as described above at column 2, lines 47-50, which is the high frequency sound embodiment.

Even if one regards sound is a type of radiation (which it is not), clearly even in this second embodiment, there is only a single type of sensor operating in the same frequency band which is ultra high frequency sound.

Clearly then Kelley discloses a system which involves only measurements in a single frequency band, either ultraviolet light or high frequency sound. There is no mixing of sensors in any one embodiment which are in any way different. For anticipation, there must be a single embodiment which meets the claims. That is not the case with Kelley.

Further, in the event the Examiner were to decide that Kelley somehow makes the present invention obvious, that is not the case since again in each embodiment Kelley only has a single type of sensor and does not suggest that there would be any advantage to using two different types of sensors together. Moreover it is clear that the use of the ultraviolet light sensor in Kelley's

first embodiment is suitable for aircraft while the high frequency sound embodiment is for use under water. Of course it would not be practical to use ultraviolet light sensors in water or sound sensors in air since the respective propagation properties would be extremely poor. Hence it would not be obvious to one skilled in the art to combine two types of sensors for either embodiment of Kelley. Moreover of course mixing sound sensors with light sensors would be unusual and would represent substantial processing and interpretation problems and generally would not be a type of system which would seem to be even remotely practical. Hence Kelley does not make the present claims obvious.

Claims Distinguish Over the References

Hence for the reasons pointed out above, Claim 1 which recites “a respective first sensor which senses radiation in a first frequency band of electromagnetic radiation and a respective second sensor which senses radiation in a second different frequency band of electromagnetic radiation” clearly distinguishes over Kelley, which has no such feature and would not render such a feature obvious.

All the other independent claims in this case recite somewhat similar features with regard to two sensors sensing radiation in different bands so all the other independent claims similarly distinguish over Kelley.

All the dependent claims are allowable over Kelley for at least the same reason as are the respective base claims.

CONCLUSION

In view of the above, all pending claims in this application are believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, Applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing Attorney Docket No. 529172000800.

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